



Louisville Metro Air Pollution Control District  
701 West Ormsby Avenue, Suite 303  
Louisville, Kentucky 40203-3137



07/29/2019

## Federally Enforceable District Origin Operating Permit Statement of Basis

**Source:** Koroseal Interior Products  
7929 National Turnpike  
Louisville, KY 40214

**Owner:** Koroseal Interior Products  
7929 National Turnpike  
Louisville, KY 40214

Application Documents: See Table 8 in section I

Public Comment Date: 06/27/2019

Permitting Engineer: Rick Williams

Permit Number: O-1847-16-F (R1)

Plant ID: 1847

SIC: 2754

NAICS: 323111

### Introduction:

This permit will be issued pursuant to District Regulation 2.17- *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

This permit revises the permit issued September 3, 2016 to incorporate the conditions of construction permit C-1847-1002-19-F (02-18-2019) which added two new 6-station printer/laminators. This permit also adds new emission limits for the source to meet STAR-exemption requirements. Additionally, this permit removes limits for greenhouse gasses to comply with the U.S. Supreme Court's June 2014 opinion in *Utility Air Regulatory Group v. EPA*.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), particulate matter less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>). Jefferson County is classified as a nonattainment area for ozone (O<sub>3</sub>). This facility is located in the portion of Jefferson County that is an attainment area for sulfur dioxide (SO<sub>2</sub>).

### Permit Application Type:

☐ Initial issuance

Permit Revision

☐ Permit renewal

☐ Administrative

☐ Minor

☒ Significant

### Compliance Summary:

☐ Compliance certification signed

☐ Compliance schedule included

☐ Source is out of compliance

☒ Source is operating in compliance

**I Source Information****1. Product Description:**

Koroseal Interior Products, LLC is a commercial wallcovering production plant with equipment that includes rotogravure printers, laminators, ovens, and an adhesive mixer.

**2. Process Description:**

Rotogravure printing, laminating, and mixing.

**3. Site Determination:**

There are no other facilities that are contiguous or adjacent to this facility.

**4. Emission Unit Summary:**

<b>Emission Unit</b>	<b>Equipment Description</b>
U1	Printing and Laminating
U2	Adhesive Mixing
IA1	Boilers

**5. Fugitive Sources:**

The source identified no fugitive sources of emissions.

**6. Permit Revisions:**

<b>Permit No.</b>	<b>Public Notice Date</b>	<b>Issue Date</b>	<b>Change Type</b>	<b>Description/Scope</b>
O-1847-16-F	06/28/2016	08/03/2016	Initial	Initial permit issuance
O-1847-16-F (R1)	06/27/2019	07/29/2019	Sig	Incorporate C-1847-1002-19-F Remove reference to greenhouse gasses in General Condition 10

**7. Construction Permit History:**

<b>Permit No.</b>	<b>Effective Date</b>	<b>Description</b>
F-14-1013-C	7/30/2014	Initial Construction Permit Issuance for a wallpaper printing facility with equipment that includes rotogravure printers, laminators, ovens, and an adhesive mixer.
C-1847-1000-15-F	7/30/2015	Construction Permit Renewal; construction not completed.

Permit No.	Effective Date	Description
C-1847-1001-15-F	2/23/2015	Construction Permit for three nickel plating tanks with a tank cover in an enclosed room controlled by a baghouse.
C-1847-1001-15-F(R1)	4/08/2015	Construction Permit Revision to update the cover page process equipment description to include the baghouse control device.
C-1847-1002-19-F	02/18/2019	Add 2 new 6-station printer/laminators with top dressing. Take limits to be STAR exempt

## 8. Application and Related Documents

Document Number	Date	Description
96585	12/28/2018 01/02/2019	Original construction application Revised construction application
96621	01/02/2019	Request for revised application form AP-100A
96622	01/02/2019	Receipt of revised AP-100A
96732	01/10/2019	Construction/Operating revision application requesting STAR exemption
96841	01/14/2019	Request for clarification on new printer description
96842	01/14/2019	Reply to request for clarification
96961	01/31/2019	Transmittal of draft permit for informal pre-issuance review
97009	02/06/2019	Reply to informal permit review
97109	02/18/2019	Transmittal of issued construction permit
97971	04/10/2019	Request for equipment install-date update
98168	04/22/2019	Company response to request for equipment install-date update

**9. Emission Summary**

Pollutant	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	VOC	Total HAP	Single HAP
Actual Emissions 2017	0.51	0.61	0.003	0.38	10.6	0.01	0.01
Major source trigger (based on PTE)	N	N	N	N	Y	N	N

**10. Applicable Requirements**

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> 40 CFR 60 | <input checked="" type="checkbox"/> SIP  | <input checked="" type="checkbox"/> 40 CFR 63 |
| <input type="checkbox"/> 40 CFR 61            | <input type="checkbox"/> District Origin | <input type="checkbox"/> Other                |

**11. Referenced MACT Federal Regulations:**

40 CFR 63, subpart WWWW: *Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*

**12. Referenced non-MACT Federal Regulations:**

40 CFR 60, subpart FFF: *Standards of Performance for Flexible Vinyl and Urethane Coating and Printing*

**II Regulatory Analysis****1. Stratospheric Ozone Protection Requirements:**

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Koroseal Interior Products does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

**2. Prevention of Accidental Releases 112(r):**

Koroseal Interior Products does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

### 3. Basis of Regulation Applicability

#### a. Applicable Regulations

Regulation	Title	Basis
2.17	<i>Federally Enforceable District Origin Operating Permits</i>	Applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit
5.00	<i>Definitions</i>	Defines the requirements to be exempt from the District-only STAR regulations.
5.02	<i>Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants</i>	Incorporates federal MACTs as part of the SIP, with APCD accepting delegation of authority for enforcement.
6.29	<i>Standard of Performance for Graphic Arts Facilities Using Rotogravure or Flexographic Printing</i>	Provides for the control of volatile organic compound emissions from graphic arts facilities that use rotogravure or flexographic printing
7.02	<i>Adoption and Incorporation by Reference of Federal New Source Performance Standards</i>	Authorizes inclusion of specified federal NSPS as part of the SIP and designated APCD as the “administrator”
7.06	<i>Standards of Performance for New Indirect Heat Exchangers</i>	Applies to any indirect heat exchanger having input capacity of more than one million BTU per hour
7.08	<i>Standards of Performance for New Process Operations</i>	Applies to the last operation preceding the emission of air contaminants for any process constructed after 1976 and not otherwise regulated by any other Chapter 7 regulation
7.52	<i>Standard of Performance for New Fabric, Vinyl and Paper Surface Coating Operations</i>	Applies to VOC emissions from each coating line for fabric, vinyl, or paper.
40 CFR 60 Subpart FFF	<i>Standards of Performance for Flexible Vinyl and Urethane Coating and Printing</i>	Applies to rotogravure printing lines used to print or coat flexible vinyl or urethane products
40 CFR 63 Subpart WWWW	<i>Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations</i>	Applies to plating and polishing facilities at an area source of pollutants

**b. Plantwide**

Koroseal Interior Products is potentially major for VOC. Regulation 2.17 – *Federally Enforceable District Origin Operating Permits* establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source requested limits of VOC less than 25 tons per year, to be classified as a synthetic minor (FEDDOOP) source.

Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Koroseal Interior Products has requested emission limits of less than 25 tons per year for all regulated pollutants, less than 12.5 tons/year for total HAPs and less than 5 tons per year for each individual HAP to be considered exempt from local TAC (STAR) regulations, as defined by Regulation 5.00, section 1.13.5.

Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit regular reports to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.1. The compliance reports are due within 60 days of the end of the reporting period:

<b><u>Reporting Period</u></b>	<b><u>Report Due Date</u></b>
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

**c. Emission Unit U1 – Printing and Laminating**

<b>EP</b>	<b>Description</b>	<b>Applicable Regulations</b>
E1	Oven Custom	6.29, 40 CFR 60 Subpart FFF
E2	#1 Laminator Liberty Machine	6.29, 40 CFR 60 Subpart FFF
E3	Top Dress Station Custom	6.29,

EP	Description	Applicable Regulations
		40 CFR 60 Subpart FFF
E5	Electric Oven	6.29
E6	#1 Printer Custom	6.29, 40 CFR 60 Subpart FFF
E7	#2 Printer DCI	6.29, 40 CFR 60 Subpart FFF
E8/E9	Maxon/Radiant Energy/456OP2	6.29
E10	#4 Printer W&H/6425	6.29, 40 CFR 60 Subpart FFF
E11	#4 Laminator Custom	6.29, 40 CFR 60 Subpart FFF
E12	Oven #1 Pyradia/SAU	6.29
E13	Oven #2 Pyradia/SAU	6.29
E14	Oven #3 Pyradia/SAU	6.29
E15	Oven #4 Pyradia/SAU	6.29
E15A	Laminator	6.29, 40 CFR 60 Subpart FFF
E16	#5 Printer Romotec/1625	6.29, 40 CFR 60 Subpart FFF
E16A	Top Dress Applicator	6.29, 40 CFR 60 Subpart FFF
E21	Top Dress Electric Oven	6.29, 40 CFR 60 Subpart FFF
E22	#5 Laminator Custom	6.29, 40 CFR 60 Subpart FFF
E23	Top Dress Station Custom	6.29, 40 CFR 60 Subpart FFF
E24	Electric Oven	6.29
E25	Electric Oven	6.29
E26	Oven #3 Pyradia/SAU	6.29
E27	Oven #4 Pyradia/SAU	6.29
E28	#6 Printer Romotec	6.29,

EP	Description	Applicable Regulations
		40 CFR 60 Subpart FFF
E29	#6 Laminator Lembo/1988	6.29, 40 CFR 60 Subpart FFF
E29A	Laminator Oven Pyradia/SAU	6.29, 40 CFR 60 Subpart FFF
E30	Oven #1 Pyradia/SAU	6.29
E31	Oven #2 Pyradia/SAU	6.29
E32	Oven #3 Pyradia/SAU	6.29
E33	Oven #4 Pyradia/SAU	6.29
E34	Oven #5 Pyradia/SAU	6.29
E35	#7 Printer Cerutti/1693 1979	6.29, 40 CFR 60 Subpart FFF
E36	#7 Laminator Custom	6.29, 40 CFR 60 Subpart FFF
E39	#7 Laminator Electric Oven	6.29, 40 CFR 60 Subpart FFF
E45 (IA)	Silver Coating Spray Booth	N/A
E46	Nickel Plating – Tank 1 Custom	40 CFR 63 Subpart WWWWW
E47 (IA)	Abrasive Blasting - Custom	7.08
E48	Nickel Plating – Tank 2 Custom	40 CFR 63 Subpart WWWWW
E49	Nickel Plating – Tank 3 Custom	40 CFR 63 Subpart WWWWW
E50	Printer/Laminator #8 Emerson and Renwick #32211 6-station printer @ 4800 yd/hr (or 2400 yd/hr with lamination/topdressing)	2.17, 7.52, 40 CFR 60, subpart FFF
E51	Printer/Laminator #9 Emerson and Renwick # 32212 6-station printer @ 4800 yd/hr (or 2400 yd/hr with lamination/topdressing)	2.17, 7.52, 40 CFR 60, subpart FFF
E52	14 Direct-fired natural gas burners, by Proctor Process Plant @ 1MMBtu/hr each	None



**i. Standards****(1) Opacity**

- (a) Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%, for the processes that commenced construction after September 1, 1976.

**(2) PM**

- (a) In accordance with Regulation 7.08, Table 1, the PM emission limit for Emission PointE47 is 2.34 lb/hr for a process throughput of 1,000 lb/hr or less. A one-time PM compliance demonstration for this equipment was performed on January 12, 2015 and the lb/hr standard cannot be exceeded uncontrolled.

**(3) VOC**

- (a) Regulation 6.29 establishes VOC content limits for various inks and solvents for rotogravure and flexographic printing.
- (b) Regulation 7.52 establishes VOC content and emission limits for fabric, vinyl, and paper surface coating operations.
- (c) Regulation 40 CFR 60 Subpart FFF establishes VOC content limits for various inks and solvents. 40 CFR 60 Subpart FFF applies to any affected facility constructed after January 18, 1983 and applies to each rotogravure printing line used to print or coat flexible vinyl or urethane products.

**d. Emission Unit U2 – Adhesive Mixing**

<b>EP</b>	<b>Description</b>	<b>Applicable Regulations</b>
E20	Mixer; Littleford Daymax; capacity: 200 gallons	7.08

**i. Standards****(1) Opacity**

- (a) For the mixer: Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%, for the processes that commenced construction after September 1, 1976.

**(2) PM**

- (a) In accordance with Regulation 7.08, Table 1, PM Emissions for Emission Point E2 (Mixer) is 2.34 lb/hr for process throughput of 1,000 lb/hr or less.

This equipment can exceed this standard when operating without controls.

**e. Emission Unit IA1 – Boilers**

<b>EP</b>	<b>Description</b>	<b>Applicable Regulations</b>
IA1-E17	Natural gas boiler #1, 1.7 MMBtu/hr	7.06
IA1-E18	Natural gas boiler #2, 1.7 MMBtu/hr	7.06

**i. Standards**

(1) Opacity

- (a) Regulation 7.06 establishes an opacity standard of less than 20%, for indirect fired heat exchangers.

(2) PM

- (a) Regulation 7.06, section 4.1.1 establishes PM emission limits for natural gas combustion in an indirect heat exchanger

(3) SO<sub>2</sub>

- (a) Regulation 7.06, section 5.1.1 establishes PM emission limits for natural gas combustion in an indirect heat exchanger.

**III Other Requirements**

**1. Temporary Sources:**

The source did not request to operate any temporary facilities.

**2. Short Term Activities:**

The source did not report any short term activities.

**3. Emissions Trading:**

The source is not subject to emission trading.

**4. Alternative Operating Scenarios:**

The source did not request any alternative operating scenarios.

**5. Compliance History:**

There are no records of any violations of the terms of the present or prior construction or operating permits.

**6. Calculation Methodology or Other Approved Method:**

Unit ID	Emission Point ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Control efficiency	Emission Factor Sources
U1	All	Printing	VOC	VOC (lb) = coating used (gal) × Density (lb/gal) × VOC content (%)		n/a	MSDS
		Laminating		OR VOC (lb) = coating used (gal) × VOC content (lb/gal)		n/a	MSDS
				OR VOC (lb) = coating used (lb) × VOC content (%)			
		Top Dress	VOC	lb/gal	0.83	n/a	MSDS
		Combustion	NO <sub>x</sub>	lb/mmcf	100	n/a	AP-42 Table 1.4-1 and AP-42 Table 1.4-2
			CO	lb/mmcf	84	n/a	
			CO <sub>2</sub>	lb/mmcf	120,000	n/a	
			Lead	lb/mmcf	0.0005	n/a	
			N <sub>2</sub> O	lb/mmcf	2.2	n/a	
			PM	lb/mmcf	7.6	n/a	
			PM <sub>10</sub>	lb/mmcf	7.6	n/a	
			SO <sub>2</sub>	lb/mmcf	0.6	n/a	
			Methane	lb/mmcf	2.3	n/a	
			VOC	lb/mmcf	5.5	n/a	
			NH <sub>3</sub>	lb/mmcf	3.2	n/a	
	IA-2 – Silver Coating Spray Booth		VOC/HAP/PM	Mass Balance Method			Data from site equipment moving from in Application scaled up to three shifts.
	E46/48/49 – Nickel Plating	all 3 units	HAP	lb/hr	0.0163	98%	June 16, 2005; Bay Area Air Quality Management District; San Francisco, CA
			PM/PM <sub>10</sub>	lb/hr	0.0163	98%	
			TACs	lb/hr	0.0163	98%	
	IA-2 – Abrasive Blasting		PM	lb/1000 lb abrasive	2.7	n/a	AP-42 Chapter 13.2.6 Abrasive Blasting: Table 13.2.6-1
			PM <sub>10</sub>		1.3		
			PM <sub>2.5</sub>		0.13		

Unit ID	Emission Point ID	Emission Point Description	Pollutants	Emission Factors Unit	Uncontrolled Emission Factors	Control efficiency	Emission Factor Sources
U2	E20 - Mixer		PM (See below)	lb/ton	20	98%	AP-42 Chapter 6.4 Table 6.4-1: Uncontrolled Emission Factors for Paint and Varnish Manufacturing
			VOC	VOC(lb) = material used (gal) × Density(lb/gal) × VOC content (%) OR VOC(lb)= raw mat'l used (gal) × VOC (lb/gal)		N/A	MSDS

If Koroseal Interior Products prefers to calculate emissions from any insignificant activity, rather than accepting the PTE values shown in the Insignificant Activities table, the following methodology should be used:

#### Natural Gas combustion

$$\text{Pollutant} \left( \frac{\text{ton}}{\text{yr}} \right) = \left( \frac{\text{gas combusted (cubic feet/year)}}{1,000,000} \right) \times EF \times \left( \frac{1 \text{ ton}}{2000 \text{ lb}} \right)$$

Where EF (lb/mmcf) is

NOx	100
CO	84
SO <sub>2</sub>	0.6
VOC	5.5
PM/PM <sub>10</sub>	0.52
Hexane	0.24

#### Silver Coating

$$\text{VOC} \left( \frac{\text{ton}}{\text{year}} \right) = \left( \text{material used} \left( \frac{\text{gal}}{\text{year}} \right) \right) \times \left( \text{density} \left( \frac{\text{lb}}{\text{gal}} \right) \right) \times \left( \frac{\% \text{ VOC}}{2000} \right)$$

$$\text{HAP} \left( \frac{\text{ton}}{\text{year}} \right) = \left( \text{material used} \left( \frac{\text{gal}}{\text{year}} \right) \right) \times \left( \text{density} \left( \frac{\text{lb}}{\text{gal}} \right) \right) \times \left( \frac{\% \text{ HAP}}{2000} \right)$$

Abrasive Blasting

$$PM = \left( \frac{\text{abrasive thruput} \left( \frac{\text{lb}}{\text{hr}} \right)}{1000} \right) \times EF \times \left( \frac{(1 - CF)}{2000} \right)$$

Where EF (lb/1000 lb<sub>abrasive</sub>) is

PM	2.70
PM <sub>10</sub>	1.53

And the baghouse control efficiency is 98%.

Mixer

Uncontrolled PM emission from the mixer shall be calculated according to the following methodology unless another method is approved in writing by the District:

$$PM \text{ (lb)} = \text{solids per batch (770 lb/batch)} \times \text{emission factor (20 lb PM/ton)} \div (2000 \text{ lb/ton}) \times \text{number of batches (\#batches)}$$

Controlled PM/PM<sub>10</sub> emission from the mixer shall be calculated according to the following methodology unless another method is approved in writing by the District:

$$PM \text{ (lb)} = \text{solids per batch (770 lb/batch)} \times \text{emission factor (20 lb PM/ton)} \div (2000 \text{ lb/ton}) \times \text{number of batches (\#batches)} \times \text{control efficiency (1 - 0.98)}$$

**7. Insignificant Activities**

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Natural Gas Boiler #1 Capacity: 1.7 MMBtu/hr (IA1)	1	Each: 0.73 – NO <sub>x</sub> 0.99 – VOC	Regulation 1.02 Appendix A
Natural Gas Boiler #2 Capacity: 1.7 MMBtu/hr (IA1)	1		Regulation 1.02 Appendix A
Silver Coating Spray Booth (E45)	1	0.103 -VOC 0.023 -HAP	Regulation 1.02, section 1.38.1.2
Custom Abrasive Blasting Unit Usage: 268 lb/hr (E47)	1	3.17 – PM 1.53 – PM <sub>10</sub>	Regulation 1.02, section 1.38.1.2

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.

3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
6. The District has determined that no monitoring, recordkeeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.